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Brown et al.

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(54) **INTELLIGENT AUGMENTED AUDIO
CONFERENCE CALLING USING
HEADPHONES**

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(58) **Field of Classification Search**

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See application file for complete search history.

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(57) **ABSTRACT**

In one aspect herein, a pre-processor receives audio signals for a conference call from individual callers, each of the audio signals associated with corresponding metadata, analyzes the metadata, and associates each of the audio signals with a spatial position in a virtual representation of the conference call based on the analyzation of the metadata. A spatial arrangement processor generates a binaural room impulse response associated with the spatial position of each of the audio signals to filter the received audio signals to account for the spatial position associated with each of the audio signals and to account for the effect of the virtual representation of the conference call. A head-tracking controller tracks an orientation of a listener's head using a headset. A binaural renderer produces multi-channel audio data for playback on the headset according to the orientation of the listener's head and the binaural room impulse response associated with the spatial position of each of the audio signals.

23 Claims, 4 Drawing Sheets

